

Amendment and Response
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REMARKS

Reexamination and reconsideration in view of the foregoing claim amendments and the following remarks is respectfully requested. Claims 35, 37 to 47, 49 to 58, 69 to 84, and new claims 109 and 110 remain for consideration.

Support for the subject matter set forth in new claim 109 is found on page 15, lines 21 to 22; page 16, lines 13 to 17; and in claims 36 and 48 as originally filed.

Independent claims 35 and 47 have been amended to incorporate the process step set forth in claims 36 and 48, respectively. Accordingly, claims 36 and 48 have been cancelled.

Claim 41 has been amended to change the dependency from canceled claim 36 to present claim 35. Likewise, claim 51 been amended to change the dependency from canceled claim 1 to present claim 47.

Claim 71 was amended to for grammatical reasons, i.e., a colon was inserted after the word "formula".

Claim 73 was amended to include bond lines in the radicals set forth under the definition of Z₂. In addition, a colon was inserted after the word "formula".

Claim Rejections

Relying on 35 U.S.C. § 102(b) or, in the alternative, 35 U.S.C. § 103(a), the Examiner rejected claims 35 to 59 and 69 to 84 as anticipated by or obvious in view of Gaynor et al. (hereafter Gaynor). The Examiner contends that Gaynor "...specifically teaches the functionalization of polymers as required by applicants' claims wherein the R group is a phenylethyl moiety." The Examiner further contends that "The question of whether this moiety contains the characteristics of being a 'radical stabilizing group' are presumed to be present since the radical is the same as that being used by applicants." The Examiner also states that the Gaynor introduction "...teaches the functionalization of the polymers."

In view of the amendment of independent claims 35 and 47 which now incorporate the additional process step of functionalizing the initially obtained prepolymer by reaction with a nucleophilic reagent, it is submitted that these claims (as well as independent claim 69)

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patentably distinguish over the Gaynor citation. While Gaynor discloses a process for controlling molecular weights and polydispersities of polymers synthesized from styrene and various acrylates in the presence of a monoiodo transfer agent of the formula R-I, there is no identical disclosure of a two-step process for synthesizing polymers in the presence of an iodine agent and then subsequently post functionalizing these polymers in the presence of a nucleophilic reagent. Moreover, there is no disclosure in Gaynor that identically describes or discloses a process that utilizes diido iodine reagents (I-R-I) and functionalized iodine reagents (Z₂-R-I) to synthesize the initial prepolymer. Each and every element of the instantly claimed process is not identically described in the Gaynor citation. Accordingly, Gaynor does not anticipate the amended claims. Withdrawal of the rejection under 35 U.S.C. § 102(b) is requested.

There is no disclosure in Gaynor that suggests or provides any motivation leading the skilled artisan to post functionalize a polymer obtained from a monoiodo transfer agent polymerization process by reacting the obtained polymer with a nucleophilic reagent. Gaynor is concerned with controlling molecular weight and polydispersities of certain polymers by employing a monoiodo transfer agent in the polymerization medium. Applicants desire to append at least one iodine atom on a terminal end of a polymer to provide a reactive moiety for subsequent post reaction with a nucleophilic reagent. When iodine agents of the I-R type are utilized, one nucleophilic reactive site is provided at a terminal end of the prepolymer. When iodine agents of the I-R-I type are utilized, two nucleophilic reactive sites at terminal ends of the prepolymer are provided for subsequent post functionalization. When functional iodine agents of the type Z₂-R-I are utilized the functional group Z₂ appends to one terminal end of the prepolymer, while the iodine moiety appends to the other terminal end of the polymer. In this embodiment the subsequent post reaction with a nucleophilic reagent yields a polymer with the functional group Z₂ at one terminal end and the nucleophilic reagent residue at the other terminal end of the polymer.

While Gaynor mentions polymer functionalization in his introduction, it is evident from a detailed review of the paper that he is referring to prior art polymerization processes (e.g., step-growth condensation polymerizations). He touts the living polymerization process as a way to conveniently synthesize block copolymers in a simple one pot synthesis by the addition of a

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second monomer at the complete consumption of the first monomer. As the process of adding successive monomers continues, polymers containing successive blocks of different monomers are synthesized. As discussed above, there is no disclosure anywhere in Gaynor that in any way suggests the post functionalization of a polymer that is prepared in the presence of a monoiodo, diiodo, or functionalized iodo reagent.

In view of the foregoing amendments and remarks, it is submitted that the claims are patentable over the Gaynor disclosure. Accordingly, an early Notice of Allowance with respect to the pending claims is earnestly solicited.

Respectfully submitted,

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